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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY, DOCKET NO.	CONFIRMATION NO.
10/005,968	11/07/2001	Abu Amanullah	2001P04224US01	2738

7590 06/21/2005

Siemens Corporation
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EXAMINER

SAMS, MATTHEW C

ART UNIT PAPER NUMBER

2643

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/005,968	Applicant(s) AMANULLAH ET AL.	
	Examiner Matthew C. Sams	Art Unit 2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This office action is in response to the amendment filed on 4/20/2005.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5, 6 and 8-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Petersen et al. (US-5,296,821 herein after, Petersen).

Regarding claim 1, Petersen discloses a system with a transmitter (Fig. 5 [500]), power amplifier (Fig. 5 [507]) and a power controller (Fig. 5 [505]). (Fig. 4 and 5, Col. 6 lines 5-7) Petersen discloses that a requested power level is not equal to a previous power level, and then a control loop will extrapolate a value from at least one previous condition stored in memory. (Col. 5 lines 31-35)

Regarding claim 2, Petersen discloses a power controller that controls the settings of a variable gain amplifier. (Col. 5 lines 50-59)

Regarding claim 3, Petersen discloses a method for use in a telecommunications transmitter, comprising a transmit power, level detector and transmit DAC values. (Col. 6 lines 5-7, Col. 7 claim 7) Petersen discloses a set power level, setting an initial

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transmit DAC value, determining the output of the level detector, comparing the output level to a nominal value, adjusting the output value so that it equals the nominal value and extrapolating past DAC values if the power level is less than a predetermined threshold. (Col. 7 claim 3 and 7)

Regarding claim 5, Petersen discloses a radio transmitter system with a variable gain amplifier and a means for adjusting the amplifier when it is greater than a predetermined threshold. (Col. 6 lines 5-7 and claim 1)

Regarding claim 6, Petersen discloses a radio transmitter system that can extrapolate a low power level. (Col. 5 lines 31-49)

Regarding claim 8, the limitations of the claim are rejected as the same reasons set forth in claim 1.

Regarding claim 9, Petersen discloses a power controller that can adjust a power value based on an output of the power adjustment unit. (Col. 7 lines 33-38)

Regarding claim 10, Petersen discloses extrapolation derived from past values on a power curve. (Col. 5 lines 31-35)

Regarding claim 11, the limitations of the claim are rejected as the same reasons set forth in claim 1.

Regarding claim 12, Petersen discloses a power controller that is adapted to adjust the gain level of a power amplifier. (Col. 5 lines 50-59)

Regarding claim 13, the limitations of the claim are rejected as the same reasons set forth in claim 10.

Regarding claim 14, Petersen discloses a telecommunications device that includes a transmitter and power amplifier controlled by a DAC. (Fig. 4, 5 and Col. 7 claim 7) Petersen discloses a level detector to determine a power level with respect to a threshold. (Col. 5 lines 31-33) Petersen discloses a power controller adapted to adjust a DAC value based on extrapolation if the level is below a threshold. (Col. 5 lines 31-35) Petersen discloses a power controller that adjusts the value of the DAC based on the detected power level and its relation to the threshold value. (Col. 7 claim 7)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petersen in view of Medl et al. (US-6,711,389 herein after, Medl).

Regarding claim 4, Petersen discloses all of the limitation of claim 3. Petersen differs from the claimed invention in failing to state that the threshold defines a linear region of a coupler vs. transmit power response. However, Medl discloses a power controller for a mobile terminal that includes a transmitter. Medl discloses a plot that clearly shows a linear region and defines the output power vs. a variable gain amplifier. (Fig. 6 and Col. 5 lines 23-26) At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to want to operate an amplifier in the

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linear region. One of ordinary skill in the art would have been motivated to do this since operating amplifiers in the linear region leads to stable operation.

Regarding claim 7, Petersen discloses all of the limitations of claim 5 and 6. Petersen differs from the claimed invention in failing to state that a slope calculation will be made during extrapolating. However, Medl discloses a slope calculation while extrapolating. (Col. 5 lines 31-50) At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the extrapolation calculation of Petersen with the slope calculation of Medl. One of ordinary skill in the art would have been motivated to do this since it allows for an accurate determination of values for the power control algorithm. (Col. 5 lines 31-50)

Response to Arguments

5. Applicant's arguments filed 4/20/2005 have been fully considered but they are not persuasive.

Pertaining to the Applicant's argument regarding a threshold, Peterson teaches an output power adjustment detector (Col. 7 lines 35-38) which is equivalent to the Applicant's power controller. Peterson teaches a reference level generator that is based on a previous output condition, which is substantially equal to the requested output condition and then stored in memory. (Col. 7 lines 39-45) Peterson teaches a default reference level stored in the memory device. (Col. 7 lines 6-12) Therefore, Peterson teaches a predetermined threshold value.

Pertaining to the Applicant's argument regarding when extrapolation is performed, Peterson teaches that if the requested power level is not substantially equal to a previous power level, a new power level is determined through extrapolation. (Col. 5 lines 31-35) Peterson leaves the substantially equal percent value as a variable (Z), which allows one of ordinary skill in the art to adjust the variation to be the exact default reference value. (Col. 5 lines 3-11) Therefore, Peterson teaches extrapolation for power level control when the power level is below a threshold.

Pertaining to the Applicant's argument regarding a means to "receive a coupler value of a power level at said output of said power amplifier if said power level is above a predetermined threshold", Peterson teaches a coupler that monitors the RF power (Col. 2 lines 58-63) and a threshold value that is determined as to whether or not it is substantially equal to the requested value. (Col. 5 lines 3-11)

Pertaining to the Applicant's argument regarding "adjusting said transmit DAC such that said output matches said nominal value; extrapolating past transmit DAC values to set said transmit DAC said set power level is less than a predetermined threshold", Peterson teaches a DAC for converting reference levels for transmit power to analog signals of the requested output value. (Col. 7 lines 33-49) Peterson teaches extrapolating past DAC values if the set power level is less than a predetermined threshold. (Col. 5 lines 31-35 and Col. 7 lines 33-49)

Pertaining to the Applicant's argument regarding claim 8, Peterson teaches that if the requested power level is not substantially equal to a previous power level, a new power level is determined through extrapolation. (Col. 5 lines 31-35) Peterson leaves

the substantially equal percent value as a variable (Z), which allows one of ordinary skill in the art to adjust the variation to be the exact default reference value. (Col. 5 lines 3-11) Therefore, Peterson teaches extrapolation for power level control when the power level is below a threshold.

Pertaining to the Applicant's argument regarding claim 11, Peterson teaches a level detector for determining a power level. (Col. 2 lines 58-63) Peterson teaches that if the requested power level is not substantially equal to a previous power level, a new power level is determined through extrapolation. (Col. 5 lines 31-35) Peterson leaves the substantially equal percent value as a variable (Z), which allows one of ordinary skill in the art to adjust the variation to be the exact default reference value. (Col. 5 lines 3-11) Therefore, Peterson teaches a level detector and extrapolation for power level control when the power level is below a threshold.

Pertaining to the Applicant's argument regarding claim 14, Peterson teaches a power controller (Fig. 4 [403]) to adjust the value of the transmitted DAC that converts reference levels for transmit power to analog signals of the requested output value. (Col. 7 lines 33-49) Peterson teaches extrapolating past DAC values if the set power level is less than a predetermined threshold. (Col. 5 lines 31-35 and Col. 7 lines 33-49) Peterson teaches a coupler that monitors the RF power (Col. 2 lines 58-63) and a threshold value that is determined as to whether or not it is substantially equal to the requested value. (Col. 5 lines 3-11)

Pertaining to Applicant's arguments regarding claims 4 and 7, Peterson teaches a power amplifier that operates in the linear mode. (Col. 5 lines 39-44) Medl teaches a

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graph that shows the linear region of output power (transmit power response) vs. the amplifier settings (coupler). (Fig. 6) Medl teaches an equation that is the derivative of a curved line, which is the slope of the line. (Col. 5 lines 35-50) Peterson teaches since the power amplifier is operating in the linear mode, the second reference value is linearly proportional to the first reference value. (Col. 5 lines 39-49)

Since no arguments were brought up about the dependent claims not mentioned above, the original rejection stands in view of the additional explanation.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Younis et al. US-6,721,368 regarding transmitter architectures for communications systems.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Sams whose telephone number is (571)272-8099. The examiner can normally be reached on M-F 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (571)272-7499. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MCS
6/14/2005


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